




# THE ECO DECLARATION

## Product environmental attributes – THE ECO DECLARATION

The declaration may be published only when all rows and/or fields marked with an \* are filled-in (n.a. for not applicable).  
Additional information regarding each item may be found under P14.

<b>Brand *</b>	<i>Think</i>	<b>Logo</b>  
<b>Company name *</b>	<i>Lenovo</i>	
<b>Contact information *</b>	<i>Lenovo Global Environmental Affairs Alvin L Carter 1009 Think Place Building 2 / 5F1 Morrisville, North Carolina 27560 alcarter@lenovo.com</i>	
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<b>Additional information</b>	<i>The latest version of this document can be found at <a href="http://www.lenovo.com/social_responsibility/us/en/datasheets_notebooks.html">http://www.lenovo.com/social_responsibility/us/en/datasheets_notebooks.html</a></i>	

The company declares (based on product specification or test results based obtained from sample testing), that the product conforms to the statements given in this declaration.

<b>Type of product *</b>	<i>Notebook</i>
<b>Commercial name *</b>	<i>ThinkPad E460</i>
<b>Model number *</b>	<i>20ET, 20EU</i>
<b>Issue date *</b>	<i>2015-09-03</i>
<b>Intended market *</b>	<input checked="" type="checkbox"/> Global <input type="checkbox"/> Europe <input type="checkbox"/> Asia, Pacific & Japan <input type="checkbox"/> Americas <input type="checkbox"/> Other
<b>Additional information</b>	

This is an uncontrolled copy when in printed form. Please refer to the contact information for the latest version.

<b>Quality Control</b>		<b>Requirement met</b>	
		Yes	No
<b>QC1 *</b>	The company enforces an internal quality control scheme to ensure the correctness of this eco declaration	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>QC2 *</b>	The company is a member of an eco declaration system that enforces regular independent quality control such as organized by IT-Företagen (see <a href="http://www.itecodeclaration.org">www.itecodeclaration.org</a> ).	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Model number *	<b>20ET, 20EU</b>		
Issue date *	2015-09-03	Logo	<b>lenovo</b>

Product environmental attributes - Legal requirements		Requirement met		
Item		Yes	No	n.a.
<b>P1 Hazardous substances and preparations</b>				
P1.1*	Products do not contain more than; 0.1% lead, 0.01% cadmium, 0.1% mercury, 0.1% hexavalent chromium, 0.1% polybrominated biphenyls (PBB) or 0.1% polybrominated diphenyl ethers (PBDE). (See legal reference and Note B1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.2*	Products do not contain Asbestos (see legal reference). Comment: Legal reference has no maximum concentration value.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.3*	Products do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), hydrobromofluorocarbons (HBFC), hydrochlorofluorocarbons (HCFC), Halons, carbontetrachloride, 1,1,1-trichloroethane, methyl bromide (see legal reference). Comment: Legal reference has no maximum concentration values.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.4*	Products do not contain more than; 0.005% polychlorinated biphenyl (PCB), 0.005% polychlorinated terphenyl (PCT) in preparations (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.5*	Products do not contain more than 0.1% short chain chloroparaffins (SCCP) with 10-13 carbon atoms in the chain containing at least 48% per mass of chlorine in the SCCP (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.6*	Textile and leather parts with direct skin contact do not contain Tri-(2,3,-dibromopropyl)-phosphate (TRIS), Tris-(aziridinyl)-phosphineoxide (TEPA), polybrominated biphenyl (PBB) (see legal reference). Comment: Legal reference has no maximum concentration values.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P1.7*	Textile and leather parts with direct skin contact do not contain more than 0.003% Azo colorants that split aromatic amines. (See legal reference and Note B1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P1.8*	Wooden parts do not contain arsenic and chromium as a wood preservation treatment as well as pentachlorophenol and derivatives (see legal reference). Comment: Legal reference has no maximum concentration values.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P1.9*	Parts with direct and prolonged skin contact do not release nickel in concentrations above 0.5 microgram/cm <sup>2</sup> /week (see legal reference). Comment: Max limit in legal reference when tested according to EN1811:1998.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P1.10*	REACH Article 33 information about substances in articles is available at (add URL or mail contact): <a href="http://www.lenovo.com/social_responsibility/us/en/materials.html">http://www.lenovo.com/social_responsibility/us/en/materials.html</a>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P2 Batteries</b>				
P2.1*	If the product contains a battery or an accumulator, it is labeled with the disposal symbol and if it contains more than 0.0005% of mercury (for button cells only) by weight, or more than 0.004% of lead, it shall be marked with the chemical symbol for the metal concerned, Hg or Pb. Information on proper disposal is provided in user manual. (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P2.2*	Button cells used in the product do not contain more than 2% by weight of mercury. Other batteries or accumulators do not contain more than 0.0005% of mercury or 0.002% of cadmium. (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P2.3*	Batteries and accumulators are easily removable by either users or service providers (as dependent on the design of the product). Exception: Batteries that are permanently installed for safety, performance, medical or data integrity reasons do not have to be "easily removable". (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P3 Safety, EMC connection to the telephone network and labeling</b>				
P3.1*	The product complies with legally required safety standards as specified (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.2*	The product complies with legally required standards for electromagnetic compatibility (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.3*	If product is intended for connection to a public telecom network or contains a radio transmitter, it complies with legally required standards for radio and telecommunication devices (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.4*	The product is labeled to show conformance with applicable legal requirements (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P4 Consumable materials</b>				
P4.1*	If a photo conductor (drum, belt etc.) is used in the product, it does not contain cadmium max 0.01% (see legal reference and Note B1).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P4.2*	If ink/toner is used in the product, it does not contain cadmium max 0.1% by weight (see legal reference).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P4.3*	If the ink/toner formulation/preparation is classified as hazardous according to applicable regulations, the product/packaging is adequately labeled and a Safety Data Sheet (SDS) in accordance with these requirements is available (see legal reference).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>P5 Product packaging</b>				
P5.1*	Packaging and packaging components do not contain more than 0.01% lead, mercury, cadmium and hexavalent chromium by weight of these together.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P5.2*	Plastic packaging material is marked according to ISO 11469 referring ISO 1043 (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P5.3*	The product packaging material is free from ozone depleting substances as specified in the Montreal Protocol (see legal reference). Comment: Legal reference has no maximum concentration values.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note B1: Restriction applies to the homogeneous material, unless other specified and expressed in weight %.



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**Product environmental attributes - Market requirements (continued)** **Requirement met**

Item Yes No n.a.

**P9 Energy consumption**

9.1 For the product the following power levels or energy consumptions are reported: [See P14](#)

Energy mode *	Power level at 100 V AC	Power level at 115 V AC	Power level at 230 V AC	Reference / Standard for energy modes and test method *	<input type="checkbox"/>
<b>Peak (On-max)</b>	65 W	65 W	65 W	<b>Full load</b>	<input type="checkbox"/>

**Category I1**

<b>Short Idle State - WOL Enabled</b>	7.13 W	7.11 W	7.21 W	Use for ENERGY STAR V6 registration ( $P_{idle}$ )	<input type="checkbox"/>
<b>Long Idle State - WOL Enabled</b>	4.23 W	4.3 W	4.46 W	Use for ENERGY STAR V6 registration ( $P_{idle}$ )	<input type="checkbox"/>
<b>Sleep (S3) - WOL Enabled</b>	0.66 W	0.65 W	0.66 W	Use for ENERGY STAR V6 registration ( $P_{sleep}$ )	<input type="checkbox"/>
<b>Off (S5) - WOL Disabled</b>	0.2 W	0.21 W	0.24 W	Use for ENERGY STAR V6 registration ( $P_{off}$ )	<input type="checkbox"/>

**Category I2**

<b>Short Idle State - WOL Enabled</b>	W	W	W	Use for ENERGY STAR V6 registration ( $P_{idle}$ )	<input checked="" type="checkbox"/>
<b>Long Idle State - WOL Enabled</b>	W	W	W	Use for ENERGY STAR V6 registration ( $P_{idle}$ )	<input checked="" type="checkbox"/>
<b>Sleep (S3) - WOL Enabled</b>	W	W	W	Use for ENERGY STAR V6 registration ( $P_{sleep}$ )	<input checked="" type="checkbox"/>
<b>Off (S5) - WOL Enabled</b>	W	W	W	Use for ENERGY STAR V6 registration ( $P_{off}$ )	<input checked="" type="checkbox"/>

EPS No-load (External power supply / charger plugged in the wall outlet but disconnected from the product.)	0.084 W	0.077 W	0.115 W		<input type="checkbox"/>
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PTEC * Typical Energy Consumption	2.978 W	2.981 W	3.038 W		<input type="checkbox"/>
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TEC * Typical Energy Consumption	0.4788 kWh/week	0.479 kWh/week	0.488 kWh/week		<input checked="" type="checkbox"/>
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ETEC * Annual Energy Consumption	24.9 kWh/year	24.92 kWh/year	25.4 kWh/year	$E_{TEC} = (8760/1000) \times (P_{off} \times 0.25 + P_{sleep} \times 0.35 + P_{long\_idle} \times 0.10 + P_{short\_idle} \times 0.30)$	<input type="checkbox"/>
<i><math>P_{off}</math>: Off Mode(S5) - WOL Enabled; <math>P_{sleep}</math>: Sleep Mode(S3) - WOL Enabled; <math>P_{idle}</math>: Idle State - WOL Enabled</i>					

Display resolution\* : 2.0736 Megapixels

Print Speed \* : Images per minute

Default time to enter energy save mode: 20 minutes

P9.2\* Information about the energy save function is provided with the product.

P9.3\* The product meets the energy requirements of the following voluntary program/s:  
ENERGY STAR® version: **Version 6.1** Tier: Product category: **I1**     
Others specify:

**P10 Emissions**

**Noise emission – Declared according to ISO 9296**

P10.1	Mode	Mode description	Declared A-weighted sound power level $L_{WA,d}$ (B)	Declared A-weighted sound pressure level $L_{pAm}$ (dB)		
				Operator position <input checked="" type="checkbox"/> Desktop <input checked="" type="checkbox"/> or Desk side <input type="checkbox"/>	Bystander positions <input type="checkbox"/> (only if product is not operator attended)	
	Idle	* <b>HDD: Idle</b>	* <b>3.1</b>	<b>23</b>		<input type="checkbox"/>
	Operation	* <b>HDD: Operating</b>	* <b>3.5</b>	<b>27</b>		<input type="checkbox"/>
	Other mode	<b>ODD operating</b>	<b>NA</b>	<b>NA</b>		
Measured according to: <input checked="" type="checkbox"/> ISO7779 <input checked="" type="checkbox"/> ECMA-74 <input type="checkbox"/> Other (only if not covered by ECMA-74 with $L_{pAm}$ measurement distance m)						

P10.2 The product meets the acoustic noise requirements of the following voluntary program/s:

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Issue date *	2015-09-03	Logo	<b>lenovo</b>

Product environmental attributes - Market requirements (continued)		Requirement met		
Item		Yes	No	n.a.
<b>Chemical emissions from printing products</b>				
P10.3*	Test performed according to ECMA-328 (ISO/IEC 28360) standard <input type="checkbox"/> , other specify:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P10.4	Typical emission rate (print phase) is (mg/h): Dust            Ozone            Styrene            Benzene            TVOC			<input checked="" type="checkbox"/>
P10.5	Chemical emission requirements of the following voluntary program/s are met for : Dust <input type="checkbox"/> Ozone <input type="checkbox"/> Styrene <input type="checkbox"/> Benzene <input type="checkbox"/> TVOC <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Electromagnetic emissions</b>				
P10.6	Computer display meets the requirement for low frequency electromagnetic fields of the following voluntary program/s: <b>JEITA-ITR (2pin adapter only)/MPR-II (3pin adapter only)</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P11 Consumable materials for printing products</b>				
P11.1*	A Safety Data Sheet (SDS) is available for the ink/toner preparation, even if not legally required (see P4.3).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P11.2*	Paper containing post-consumer recycled fibers can be used, provided that it meets the requirements of EN12281.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P11.3*	2-sided (duplex) printing/copying is an integrated product function.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>P12 Ergonomics for computing products</b>				
P12.1*	The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P13 Packaging and documentation</b>				
P13.1*	Product packaging material type(s): <b>carton</b> weight (kg): <b>0.329</b> Product packaging material type(s): <b>paper pad</b> weight (kg): <b>0.04</b> Product packaging material type(s): <b>bag</b> weight (kg): <b>0.02</b> Product packaging material type(s): <b>manual</b> weight (kg): <b>0.01</b> Product packaging material type(s): <b>cushion</b> weight (kg): <b>0.14</b>			
P13.2*	Product plastic packaging is free from PVC.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P13.3*	Specify media for user and product documentation (tick box): Electronic <input checked="" type="checkbox"/> , Paper <input checked="" type="checkbox"/> , Other <input type="checkbox"/>			<input type="checkbox"/>
P13.4*	For paper user and product documentation, please specify contained percentage of post-consumer recycled fiber: <b>70% (only for Japan) %</b>			<input type="checkbox"/>
<b>P14 Additional information (See Note B4)</b>				
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<b>P9</b>	<b>See Energy Star Qualified Notebooks &amp; Tablet Computers for the latest information:</b> <a href="http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&amp;pgw_code=CO">http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&amp;pgw_code=CO</a>			

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Note B4: Additional lines may be inserted to declare further items, by positioning the cursor at the far right of the row and hitting the <Enter> key.

## Legal references Europe Annex B

Reference	Declaration item
2002/95/EC (ROHS Directive)	P1.1, P4.1
REACH, Annex XVII	P1.6, P1.8, P4.2
REACH, Annex XVII	P1.4
REACH, Annex XVII	P1.2
REACH, Annex XVII	P1.7
REACH, Annex XVII	P1.9
Regulation (EC) No. 2037/2000, 2038/2000, 2039/2000	P1.3
Norwegian regulation relating to restrictions on the use of certain dangerous chemicals 20.12.2002	P1.5
2006/66/EC (Battery and accumulators Directive)	P2.1, P2.2, P2.3, P3.4, P8.1
2006/95/EC (Low Voltage Directive)	P3.1, 3.4
2004/108/EEC (New EMC Directive)	P3.2, 3.4
1999/5/EC (R&TTE Directive)	P3.3, 3.4
"REACH" Regulation (1907/2006), annex VII	P1.10
(EC) No.1272/2008 regulation on classification, labeling and packaging (CLP)	P4.3
REACH article 31, annex II	P4.3
2004/12/EC (Directive on packaging and packaging waste)	P5.1
(97/129/EC) (Commission Decision on Identification System for Packaging Materials)	P5.2
2037/2000/EC Regulation on Substances that Deplete the Ozone Layer	P5.3
2002/96/EC (WEEE directive)	P3.4, P6.1
(EC) No.1272/2008 regulation on classification, labeling and packaging (CLP)	P7.19

# Lenovo ErP Lot3 Information Sheet


## - PC / Notebook -

As required by COMMISSION REGULATION (EU) No 617/2013 of 26 June 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for computers and computer servers (ErP Lot3).

### Products scope of this sheet:

Desktop computer, integrated desktop computer, and notebook computer

This document is only valid in connection with the IT Eco Declaration of the specific Product.

Commercial name	<i>ThinkPad E460</i>	
Model Number	<i>20ET, 20EU</i>	
Issue Date	<i>2015-07-27</i>	
Additional information		

P7.1.1 Product environmental attributes	
(d)	year of manufacture: <span style="float: right;"><i>2015</i></span>
(e)	<p><b>E TEC value</b> (kWh) per ErP Lot 3 Category and capability adjustments applied when <b>all discrete graphics cards (dGfx) are disabled</b> and if the system is tested with switchable graphics mode with UMA driving the display:</p> <p><b>Category (according to ErP Lot 3):</b> <i>A</i>      <b>Etec:</b> <i>20.43</i></p>
(f)	<p><b>E TEC value</b> (kWh) per ErP Lot 3 Category and capability adjustments applied when <b>all discrete graphics cards (dGfx) are enabled</b>:</p> <p><b>Category (according to ErP Lot 3):</b> <i>B</i>      <b>Etec:</b> <i>13.68</i></p>
(g)	idle state power demand (Watts); <span style="float: right;"><i>A:6.98 / B:4.4</i></span>
(h)	sleep mode power demand (Watts); <span style="float: right;"><i>A:0.82 / B:0.82</i></span>
(i)	sleep mode with WOL enabled power demand (Watts) (where enabled); <span style="float: right;"><i>A:0.85 / B:0.86</i></span>
(j)	off mode power demand (Watts); <span style="float: right;"><i>A:0.26 / B:0.25</i></span>
(k)	off mode with WOL enabled power demand (Watts) (where enabled); <span style="float: right;"><i>A:0.26 / B:0.25</i></span>
(l)	<p>internal power supply efficiency at 10 %, 20 %, 50 % and 100 % of rated output power (if applicable):</p> <p>10%      20%      50%      100%      Average      or level:</p>
(m)	<p>external power supply efficiency (if applicable):</p> <p>Average*: <i>45W: 87,27%,87,31%,88,83%</i></p> <p><small>*internal note: show values for all available external power supplies</small></p>
(o)	the minimum number of loading cycles that the batteries can withstand (applies only to notebook computers): <span style="float: right;"><i>800 cycles</i></span>
(p-1)	the measurement methodology used to determine information mentioned in points (l) – internal PSU efficiency: <span style="float: right;"><i>NA</i></span>
(p-2)	the measurement methodology used to determine information mentioned in points (m) – external PSU efficiency: <span style="float: right;"><i>Measuring the Energy Consumption of External Power Supplies, Appendix Z to 10 CFR Part 430.</i></span>

(p-3)	the measurement methodology used to determine information mentioned in points (o) – loadingcycles batteries:  <i>IEC 61960 measurement methodology / 0.5C Charge/Discharge</i>	
(p-4)	the measurement methodology used to determine information mentioned in maximum, idle, sleep, off mode power as defined in Point P9.1 in the Product IT Eco Declaration:  <i>IEC 62623 measurement methodology</i>	
(q)	sequence of steps for achieving a stable condition with respect to power demand::  <i>IEC 62623 measurement methodology</i>	
(r)	description of how sleep and/or off mode was selected or programmed:  <i>refer to power management, sleep mode: ACPI system level G1/S3 (suspend to RAM) state; off mode: ACPI system level G2/S5 ('soft off') state</i>	
(s)	sequence of events required to reach the mode where the equipment automatically changes to sleep and/or off mode:  <i>refer to power management, 20mins automatically reaches sleep mode</i>	
(t)	the <b>duration of idle state condition before the computer automatically reaches sleep mode</b> , or another condition which does not exceed the applicable power demand requirements for sleep mode (in minutes):	<b>20</b>
(u)	the <b>length of time after a period of user inactivity in which the computer automatically reaches a power mode that has a lower power</b> demand requirement than sleep mode (in minutes):	<b>NA</b>
(v)	the <b>length of time before the display sleep mode is set to activate</b> after user inactivity (in minutes):	<b>10</b>
(w)	information on the energy-saving potential of power management functionality:  <i>refer to user manual</i>	
(x)	user information on how to enable the power management functionality:  <i>refer to user manual</i>	
(z)	test parameters for measurements: — test voltage in V and frequency in Hz, — total harmonic distortion of the electricity supply system, — information and documentation on the instrumentation, set-up and circuits used for electrical testing:  <i>230V, 50GHz-&lt;0.5%-ENERGY STAR Test Method for Computers, Rev. Aug-2010</i>	

**Addition Notebook Battery Information:**

Yes (Battery <b>not</b> user replaceable)	No (Battery user replaceable)	n/a	This notebook computer is operated by battery/ies that cannot be accessed and replaced by a non-professional user.  <b>The battery[ies] in this product cannot be easily replaced by users themselves</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

**Additional information**
